REMARKS

The Applicant and the undersigned thank Examiner Desire for his time and consideration given during the telephonic interview conducted on June 16, 2005. The Applicant also appreciates Examiner Desire's careful review of this application. Claims 1-31 have been rejected. Upon entry of this amendment, Claims 1-31 remain pending in this application.

The independent claims are Claims 1, 16, 17, 19, and 21-23. Consideration of the present application is respectfully requested in light of the above amendments to the application and in view of the following remarks.

Summary of Telephonic Interview of June 16, 2005

The Applicant and the undersigned thank Examiner Desire for his time and consideration given during the telephonic interview of June 16, 2005. During this telephonic interview, a proposed amendment to the claims was discussed. The Applicant provided the proposed amendment to the claims in advance of the interview.

The Applicant's representative explained that the prior art of record, especially U.S. Pat. No. 6,618,501 issued in the name of Osawa et al (hereinafter, the "Osawa reference"), does not provide any teaching of determining if two objects are similar by using a full-size of the known object that comprises a complete area of pixels of the known object, as recited in the amended independent claims. It was pointed out to Examiner Desire that the Osawa reference describes image similarity calculation processing that uses only a silhouette or outline of an object, and not a full-size of an object.

Examiner Desire acknowledged the differences between the Osawa reference and the Applicant's proposed amended claims. Examiner Desire indicated that an update search would need to be conducted if the Applicant formally submits the amendment.

The Applicant and the undersigned request the Examiner to review this interview summary and to approve it by writing "Interview Record OK" along with his initials and the date next to this summary in the margin as discussed in MPEP § 713.04, p. 700-202.

Claim Rejections under 35 U.S.C. §§ 102(e) and 103(a)

The Examiner rejected Claims 1, 4, 12, 15, and 29 under 35 U.S.C. §102(e) as being anticipated by the Osawa reference. The Examiner rejected Claims 6 and 14 under 35 U.S.C. § 103(a) as being unpatentable over the Osawa reference in view of U.S. Patent No. 6,563,959 issued in the name of Troyanker (hereinafter the "Troyanker" reference).

The Examiner rejected Claims 2, 3, 13, 16-25, 27, and 31 under 35 U.S.C. § 103(a) as being obvious in view of the Osawa reference in view of U.S. Patent No. 6,161,109 issued in the name of Matamoros et al. (hereinafter the "Matamoros" reference). The Examiner rejected Claim 5 under 35 U.S.C. § 103(a) as being obvious in view of the Osawa reference and Troyanker reference and further in view of U.S. Patent No. 6,463,426 issued in the name of Lipson et al. (hereinafter the "Lipson" reference).

The Examiner rejected Claims 7-11 under 35 U.S.C. § 103(a) as being obvious in view of the Osawa reference and the Troyanker reference in view of U.S. Patent No. 6,271,840 issued in the name of Finseth et al. (hereinafter the "Finseth" reference). The Examiner also rejected Claim 28 under 35 U.S.C. § 103(a) as being obvious in view of the Osawa, Troyanker, and Matamoros references in view of the Lipson reference. The Examiner further rejected Claim 30 under 35 U.S.C. § 103(a) as being obvious in view of the Osawa, Troyanker, and Matamoros references in view of the Finseth reference.

The Applicant respectfully offers remarks to traverse these pending rejections. The Applicant will address each independent claim separately as the Applicant believes that each independent claim is separately patentable over the prior art of record.

Independent Claim 1

The rejection of Claim 1 is respectfully traversed. It is respectfully submitted that the Osawa, Troyanker, Matamoros, Finseth, and Lipson references fail to describe, teach, or suggest the combination of (1) searching a database for target objects; (2) providing a known object comprising an image; and (3) determining if any target object in the database is confusingly similar with the known object by (4) comparing a model based on a full-size of the known object with at least one of a (5) full-size of the target object, (6) a

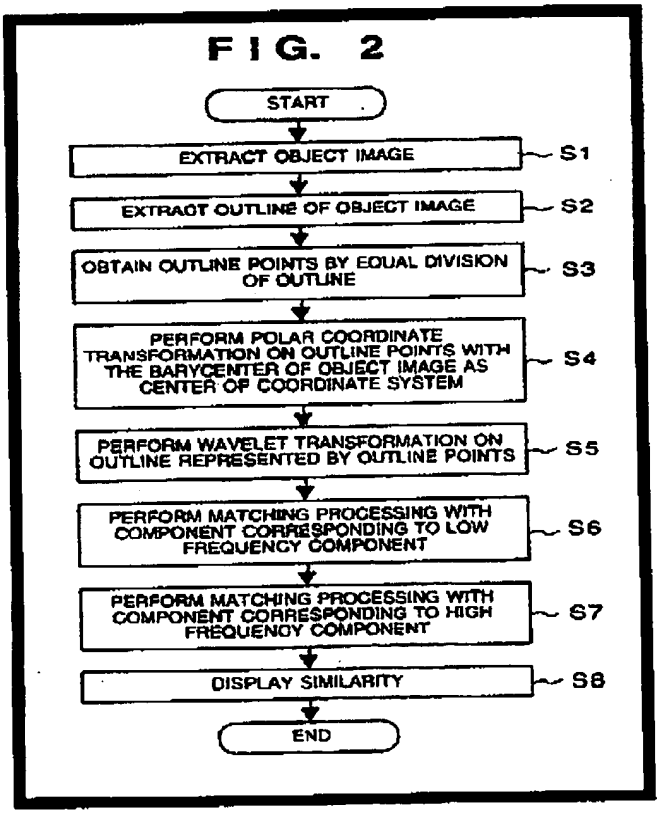
scaled version of the entire target object, and (7) a portion of the target object, (8) the full-size of the known object comprising a completc area of pixels of the known object, as recited in amended Claim 1.

The Osawa Reference:

The Osawa reference describes image similarity calculation processing in Figure 2 reproduced below. This image similarity calculation processing uses only a silhouette or outline of an object, and not the whole or entire image of an object.

Specifically, data for a plurality of model images, on which a wavelet transformation has been performed, is stored in a database 22 before the similarity calculation processing is started. In step S1, a silhouette image of an object is extracted from a sample grayscale image, and the extracted image is stored in the object image storage as an object image. See Osawa reference, column 2, lines 58-68 and Figure 2 below.

FIG. 2



Next in step S2, an outline of the object image, obtained in step S1, is extracted. In step S3, the outline of the object image obtained in step S2 is equally divided by N to obtain outline points. In step S4, the obtained outline points are subjected to polar coordinate transformation with the barycenter of the object image as the center of the coordinate system.

In step S5, the outline represented by the outline points is transformed into a wavelet descriptor. The above-described steps S2 to S5 are executed by an outline point extraction program. See Osawa reference, column 3, lines 2-12. In step S6, the similarity of the outline is calculated between the object image and a model image by using a component corresponding to the low frequency component of the outline. The similarity calculation is a matching processing between the object image and model image.

In step S6, matching processing with higher precision is performed in step S7 by using a component corresponding to the high frequency component of the outline. The matching processing in steps S6 and S7 is executed by the similarity calculation program.

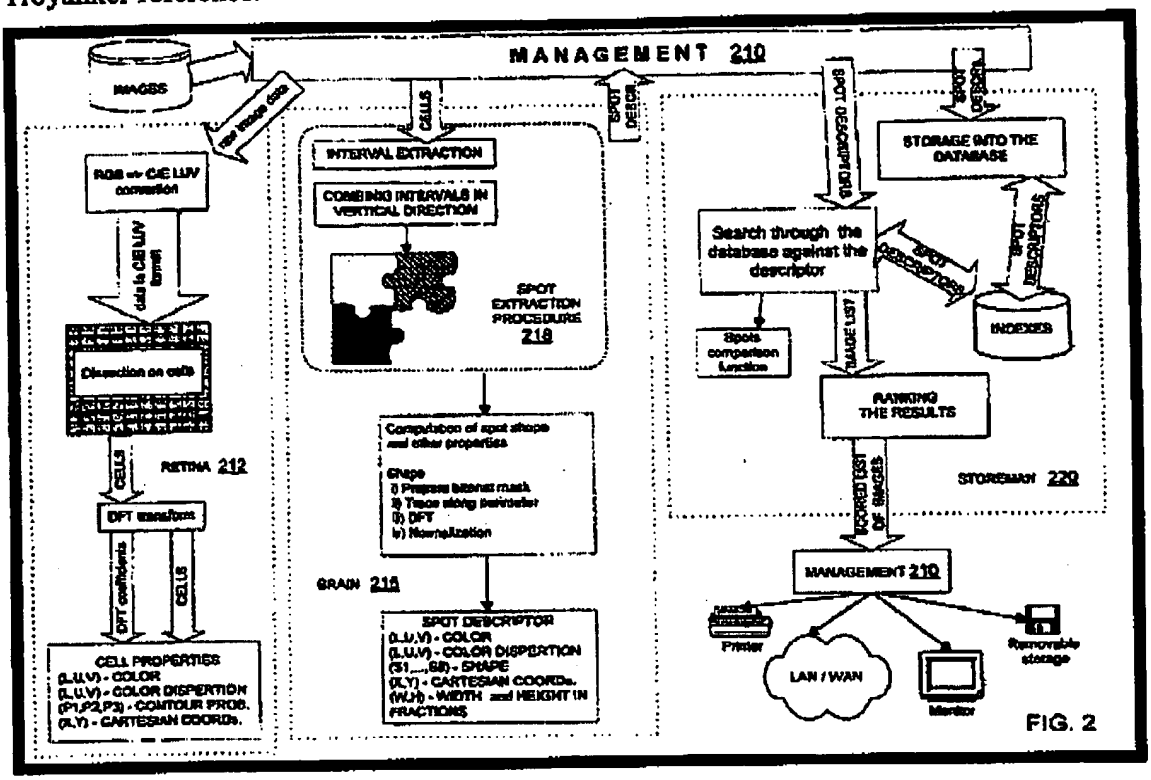
In step S8, the matching result obtained in steps S6 and S7, i.e., the similarity, is displayed on the display portion to inform the user. See Osawa reference, column 3, lines 13-26.

Opposite to the Osawa reference, the invention as described by amended independent Claim 1 compares a model based on a full-size of the known object with at least one of a full-size of the target object, a scaled version of the entire target object, and a portion of the target object. The full-size of the known object comprises a complete area of pixels of the known object. The Osawa reference does not provide any teaching of such processing with a complete area of pixels of the known object as recited in amended independent Claim 1 in combination with the other claim elements.

The Troyanker Reference

The Examiner admits that the Osawa reference does not contemplate comparing images taken from the worldwide Internet. To make up for this deficiency of the Osawa reference, the Examiner relies upon the Troyanker refererence.

The Troyanker reference describes an image analysis and management system that converts raw image data into a scaled or smaller sized mathematical representation of the image data that is used in a comparison with a known image. Specifically, the Troyanker reference takes raw image data and converts it from an RGB format to a CIE LUV color format. See Figure 2 reproduced below and column 4, lines 2-15 of the Troyanker reference.



After converting the raw image data to an RGB format, it converts the RGB formatted data using a Discrete Fourier Transform (DFT). See DFT transform and Retina 212 of Figure 2. The DFT transformed data is then processed using a spot extraction method 218. In this method, cells of the DFT transformed data are joined together to form a smaller sized image. See the Troyanker reference, Spot extraction procedure 218 of Figure 2, and column 4, lines 47-60. Specifically, cells are joined together to form intervals and then the intervals are assigned to a certain group or spot. A spot is a group of intervals having the relatively same color and brightness. All intervals within a spot are connected. See the Troyanker reference, column 4, line 65 through column 5, line 3. The Troyanker reference further explains that only low frequencies are the subject of

interest as they carry the majority of information about a shape while disregarding pixel-size perturbation and noise added to the spot extraction procedure. See the Troyanker reference column 5, lines 22-26.

Figure 4 of the Troyanker reference reproduced below illustrates the concept in which only low frequencies are the subject of interest and form the spot and a spot descriptor (shape outline). Model 410 of Figure 4 of the Troyanker reference shows a spot with a thin line 430 while the thick line, referred to as the spot descriptor, provides the shape of the original object 420. See Troyanker reference, column 5, lines 25-40.

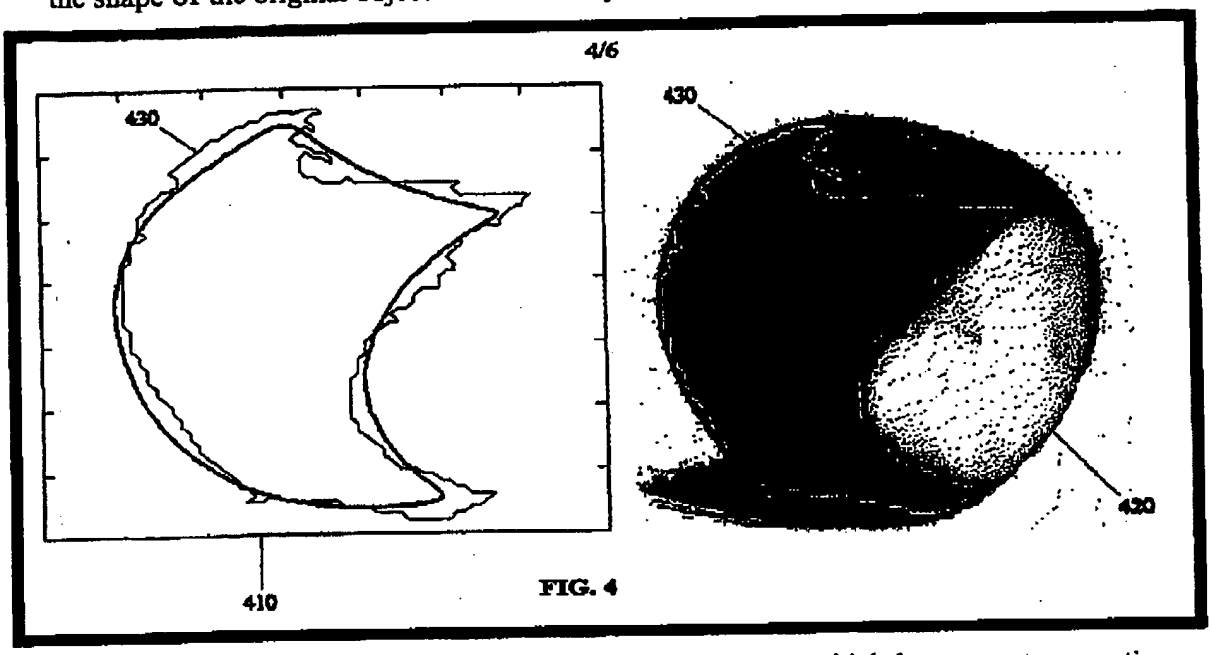


FIG. 4

The thick line or spot descriptor is a data structure which keeps spot properties. Besides shape, the spot descriptor also contains spot color, the color dispersion across the spot, the relative size and position within the whole original image, and spot hierarchy information. It is the spot descriptor that is passed to the Storeman Operation 220 as illustrated in Figure 2 (reproduced above) and that is used for searching. See Figure 2, functional block labeled, "Search through the database against the descriptor," and column 5, lines 50-64. With the Troyanker reference, descriptors that form models, such as model 410, are based on smaller sized or portions of an original object and are used to determine similarities between different images.

Opposite to the Troyanker reference, target objects in a database of the invention described in amended Claim 1 are determined if they are confusingly similar with the known object by comparing a model that is based on a full-size of the known object with at least one of a full-size of the target object, a scaled version of the entire target object, and a portion of the target object. The Troyanker reference does not use models based on a full-size of the known object. Instead, the Troyanker uses a reduced-size or portions of an original object to perform any comparisons between objects, similar to the Osawa refrence.

Matamoros Reference

The Examiner admits that the Osawa reference does not provide any teaching of storing duplicated objects to produce stored duplicated objects as recited in dependent Claim 2. To make up for a duplicating objects deficiency of the Osawa reference, the Examiner relies upon the Matamoros reference.

The Examiner refers the Applicant to Figure 1, functional block 122, in which the Examiner alleges that the Matamoros reference provides a teaching of duplicating and storing images from a database. However, the Applicants point out that one of ordinary skill in the art recognizes that the "image copy" language listed in functional block 122 of the Matamoros reference is not referring to "images" in the graphics sense or graphical object meaning of the word.

Instead, the term "image copy" as used in the Matamoros reference is defined as a "secondary" copy of a database. Specifically, the Matamoros reference describes an image copying system 122 in conjunction with a data manager 118 that provides a technique for determining which data from a database has been modified and should be copied from an "original" or "primary" copy on primary storage device to update an "image" or "secondary" copy on a secondary data storage for use as a backup copy device. See Figure 1 of the Matamoros reference reproduced below, and column 4, lines 45-57.

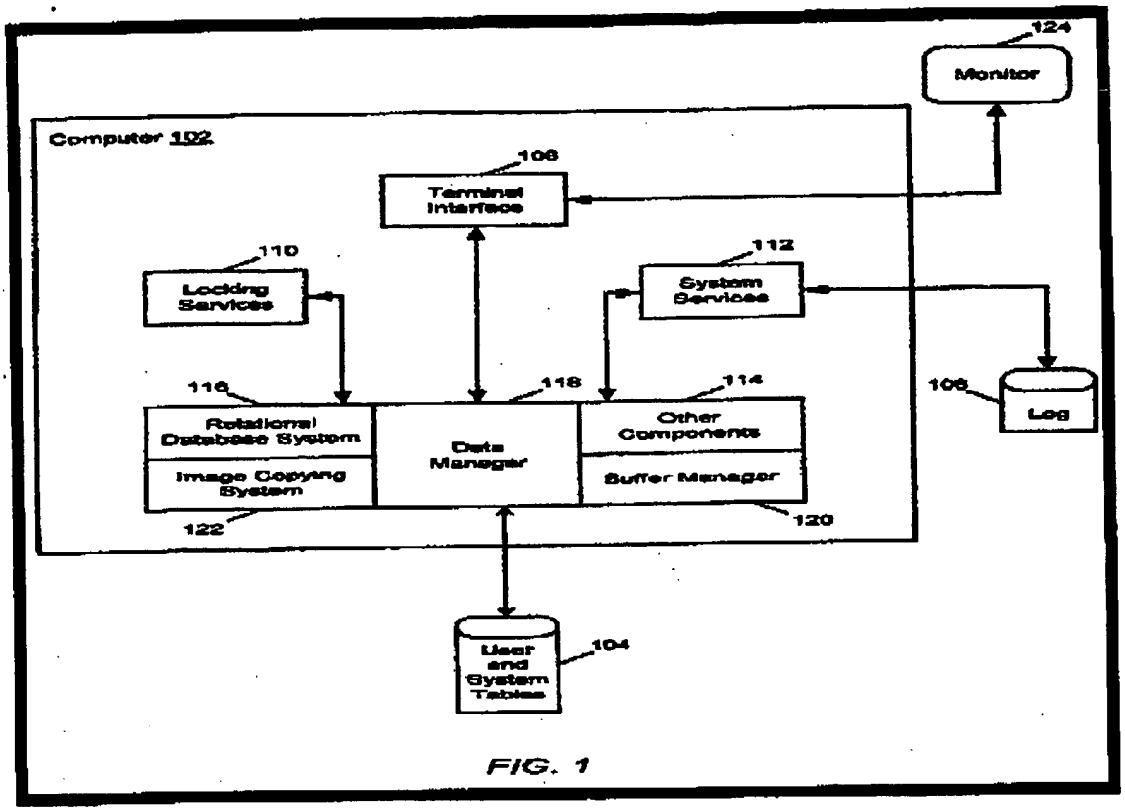


FIG. 1

Therefore, one of ordinary skill in the art recognizes that the Matamoros reference does not relate in any way to graphical "images" or objects and is not combinable with the Troyanker reference for the purposes alleged by the Examiner. Even if the Examiner maintains his position with this proposed combination, the Matamoros reference does not make up for the numerous deficiencies of the Osawa reference relative to amended Claim 1. For example, the Matamoros reference does not provide any teaching of determining if objects are confusingly similar with the known object by comparing a model that is based on a full-size of the known object with at least one of a full-size of the target object, a scaled version of the entire target object, and a portion of the target object, as recited in amended independent Claim 1.

Finseth Reference

The Examiner admits that the Osawa and Matamoros references fail to provide any teaching of searching the Internet in general and using a web crawler. To make up for this deficiency, the Examiner relies on the Finseth reference.

The Finseth reference describes a visual index process 20 in which a web crawler 32 retrieves web pages by accessing uniform resource locators (URLs) 30. The URLs 30 are provided by a source system or process 22 such as an internet search engine such as Yahoo!! or Google. See Figure 1 of the Finseth reference reproduced below and column 4, lines 25-27; 57-60.

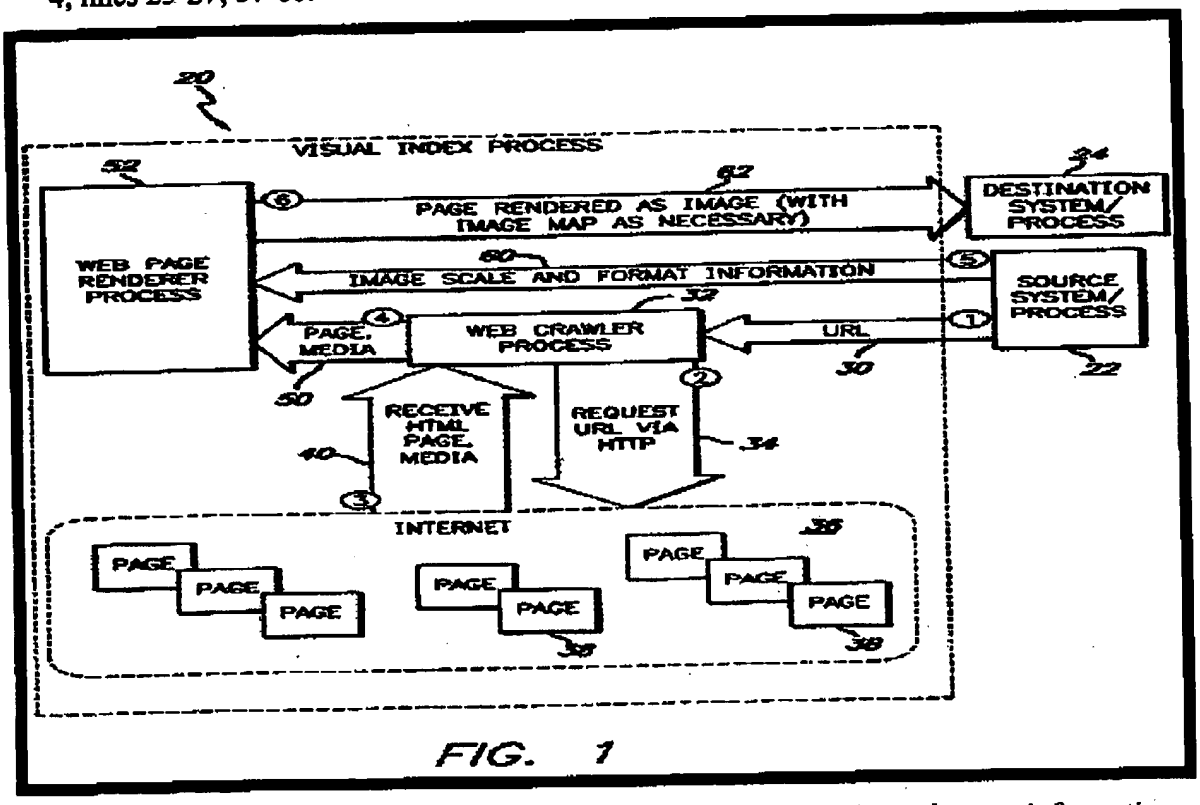


FIG. 1

The Finseth reference explains that the web crawler 32 passes the web page information to the web page renderer 52 that transforms the web page information into a scaled image. See the Finseth reference, column 5, line 61 through column 6, line 34. This scaled image can be placed adjacent to the text URL in the destination system or process 24 in which the new index presenting the scaled thumbnail image of a web page and its associated text URL are displayed.

While the Examiner may allege that the Finseth reference is relevant prior art, the Finseth reference does not make up for the numerous deficiencies of the Troyanker and Matamoros references. Similar to these two references, the Finseth reference does not provide any teaching of determining if objects are confusingly similar with the known

object by comparing a model that is based on a full-size of the known object with at least one of a full-size of the target object, a scaled version of the entire target object, and a portion of the target object, as recited in amended independent Claim 1. Instead, the Finseth reference merely teaches an indexing system that produces thumbnail sized images of web pages.

The Lipson Reference

The Examiner admits that the Osawa, Troyanker, and Matamoros references fail to provide any teaching of objects selected from the group consisting of logos, trademarks, servicemarks, and mixtures thereof as recited in dependent Claim 5. To make up for this deficiency, the Examiner relies upon the Lipson reference.

The Lipson reference describes an image analyzer and search engine that may use a process for comparing a primary image 70 and a target image 80. In this process, the primary image 70 and target image 80 are divided into image regions with rows and columns. See Step 42 of Figure 3 and Figures 4 (Primary Image) and Figure 4B (Target Image) of the Lipson reference reproduced below.

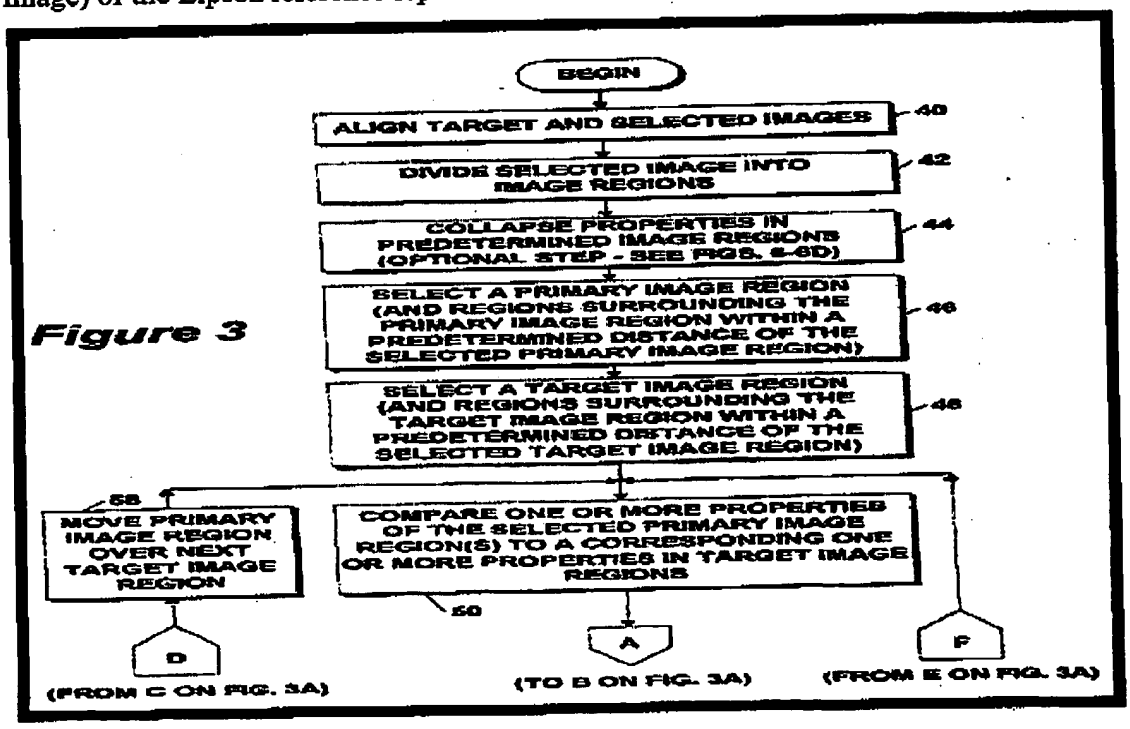
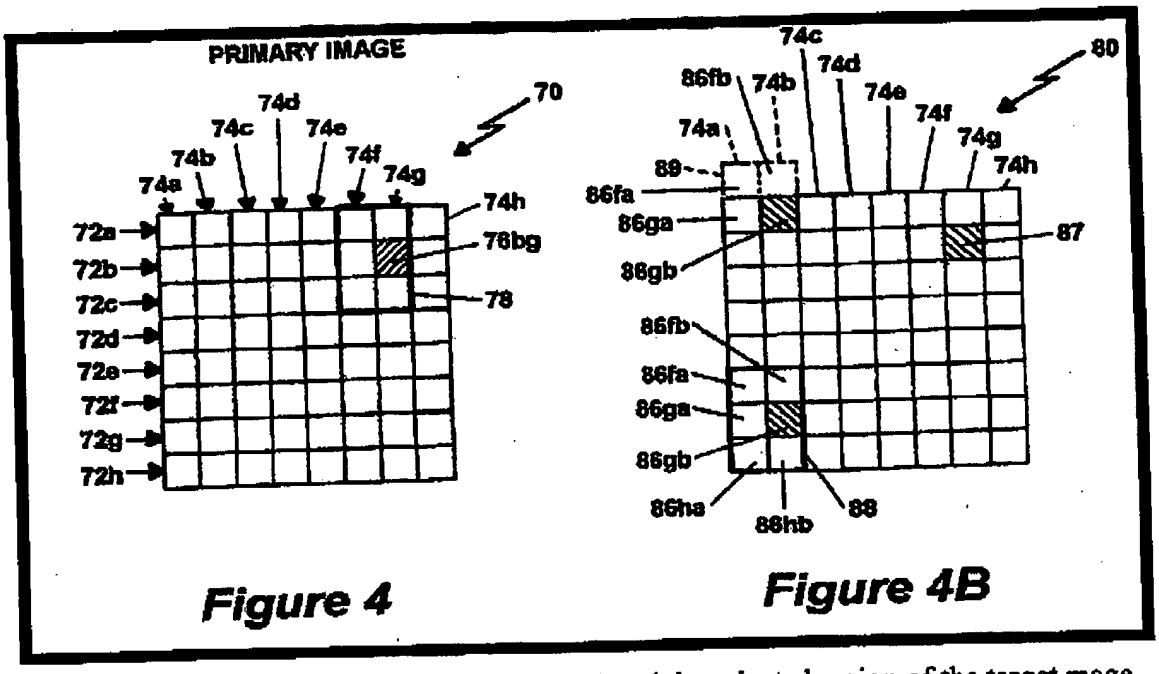


Figure 3

In Steps 46 and 48 of Figure 3 of the Lipson patent, smaller regions 78 and 88 of the larger primary image and target images are selected. In step 50 of Figure 3 reproduced above, the selected regions 78 and 88 that are smaller than the full-size or entire images of the primary and target images 70 and 80 are compared. See Lipson reference, Figure 3, and column 11, lines 55-58.



The selected region 78 of the primary image 70 and the selected region of the target mage 80 are usually the same size. Both regions 78, 88 are smaller than the entire images 70, 80.

It is noted that Figure 5 of Lispson provides a step 90 that describes a "Match image A to image B to get aggregate score. The detailed description of the Lipson reference explains that the processing performed to match image A to image B is the processing described above with Figures 3-4B. See the Lipson reference, column 16, lines 37-42. In other words, the Lipson does not provide any teaching of comparing a model based on a full-size of the known object with a target object, as recited in amended independent Claim 1.

Even if the Examiner's assertion that the Lipson reference describes duplicated objects that include intellectual property such as logos or trademarks, the Lipson

reference fails to make up for the numerous deficiencies of the other references relied upon by the Examiner to reject the claims, especially the Osawa reference as noted above.

Summary for Independent Claim 1

In light of the differences between Claim 1 and the Osawa, Troyanker, Matamoros, Finseth, and Lipson references, one of ordinary skill in the art recognizes that these prior art references, alone or in combination, cannot anticipate or render obvious the recitations as set forth in amended independent Claim 1. Accordingly, reconsideration and withdrawal of the rejection of Claim 1 are respectfully requested.

Independent Claim 16

The rejection of Claim 16 is respectfully traversed. It is respectfully submitted that the Osawa, Troyanker, Matamoros, Finseth, and Lipson references, fail to describe, teach, or suggest the combination of (1) receiving a known object comprising at least one of a logo, a trademark, a service mark, and a combination thereof; (2) searching a database for objects; (3) duplicating the objects from the database to produce duplicated objects; (4) storing the duplicated objects to produce stored duplicated objects; and (5) determining if any stored duplicated object is confusingly similar with the known object by comparing a model of the known object with the duplicated object if the known object is formatted as an image and (6) wherein the model is based on a full-size of the known object, (7) the full-size of the known object comprising a complete area of pixels of the known object, and by comparing characters of the known object with the duplicated object if the known object comprises text, as recited in amended Claim 16.

As noted above with respect to independent Claim 1, the Osawa, Troyanker, Matamoros, Finseth, and Lipson references do not determine if any stored duplicated object is confusingly similar with the known object by comparing a model of the known object with the duplicated object if the known object is formatted as an image and wherein the model is based on a full-size of the known object, where the full-size of the known object comprises a complete area of pixels of the known object. These references also fail to determine if any stored duplicated object is confusingly similar with the

known object by comparing characters of the known object with the duplicated object if the known object is formatted as text.

In light of the differences between Claim 16 and the references mentioned above, one of ordinary skill in the art recognizes that the prior art references, alone or in combination, cannot anticipate or render obvious the recitations as set forth in amended independent Claim 16. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Independent Claim 17

The rejection of Claim 17 is respectfully traversed. It is respectfully submitted that the Osawa, Troyanker, Matamoros, Finseth, and Lipson references, fail to describe, teach, or suggest the combination of (1) means for searching a database for objects; (2) means for duplicating the objects from the database to produce duplicated objects; (3) means for storing the duplicated objects to produce stored duplicated objects; and (4) means for determining if any stored duplicated object is confusingly similar with a known object comprising a face (5) by comparing a model based on the normal size of the known object against at least one of a normal size of the duplicated object, a scaled version of the entire duplicated object, and a portion of the duplicated object, (6) the normal size of the known object comprising a complete area of pixels of the known object, as recited in amended Claim 17.

As noted above with respect to independent Claim 1, the Osawa, Troyanker, Matamoros, Finseth, and Lipson references do not have means for determining if any stored duplicated object is confusingly similar with a known object by comparing a model based on the normal size of the known object against at least one of a normal size of the duplicated object, a scaled version of the entire duplicated object, and a portion of the duplicated object. The references do not use a normal size of the known object that comprises a complete area of pixels of the known object. It also follows that these references also fail to describe such means wherein the known object comprises a face.

In light of the differences between Claim 17 and the references mentioned above, one of ordinary skill in the art recognizes that the prior art references, alone or in combination, cannot anticipate or render obvious the recitations as set forth in amended

independent Claim 17. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Independent Claim 19

The rejection of Claim 19 is respectfully traversed. It is respectfully submitted that the Osawa, Troyanker, Matamoros, Finseth, and Lipson references, fail to describe, teach, or suggest the combination of (1) a search engine for searching a database for objects; (2) a duplicator coupled to the search engine for duplicating the objects from the database to produce duplicated objects; (3) a store coupled to the duplicator for storing duplicated objects to produce stored duplicated objects; and (4) determining means, coupled to the store, (5) for determining if any stored duplicated objects is confusingly similar with a known object that comprises an image, (6) for comparing a model based on a full-size of the known object with at least one of a full-size of the duplicated object, a scaled version of the entire duplicated object, and a portion of the duplicated object, (7) the full-size of the known object comprising a complete area of pixels of the known object, as recited in amended Claim 19.

As noted above with respect to independent Claim 1, the Osawa, Troyanker, Matamoros, Finseth, and Lipson references do not teach determining means, coupled to a store, for determining if any stored duplicated objects is confusingly similar with a known object that comprises an image, for comparing a model based on a full-size of the known object with at least one of a full-size of the duplicated object, a scaled version of the entire duplicated object, and a portion of the duplicated object. The references do not provide any teaching of full-size of the known object comprising a complete area of pixels of the known object.

In light of the differences between Claim 19 and the references mentioned above, one of ordinary skill in the art recognizes that the prior art references, alone or in combination, cannot anticipate or render obvious the recitations as set forth in amended independent Claim 19. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Independent Claim 21

The rejection of Claim 21 is respectfully traversed. It is respectfully submitted that the Osawa, Troyanker, Matamoros, Finseth, and Lipson references, fail to describe, teach, or suggest the combination of (1) searching an Internet database for objects with a search engine; (2) duplicating the objects from the database with a duplicator to produce duplicated objects; (3) coupling a store to the duplicator for storing the duplicated objects; (4) accessing the store that stores duplicated objects from the Internet database; and (5) determining if any of the duplicated objects stored in the store are similar with a known object by comparing a model based on a full-size of the known object with at least one of (6) a full-size of the duplicated object, (7) a scaled version of the duplicated object, and (8) a portion of the duplicated object, (9) the full-size of the known object comprising a complete area of pixels of the known object, as recited in amended Claim 21.

As noted above with respect to independent Claim 1, the Osawa, Troyanker, Matamoros, Finseth, and Lipson references do not determine if any of the duplicated objects stored in the store are similar with a known object by comparing a model based on a full-size of the known object with at least one of a full-size of the duplicated object, a scaled version of the duplicated object, and a portion of the duplicated object. These references do not provide any teaching of a full-size of the known object comprising a complete area of pixels of the known object.

In light of the differences between Claim 21 and the references mentioned above, one of ordinary skill in the art recognizes that the prior art references, alone or in combination, cannot anticipate or render obvious the recitations as set forth in amended independent Claim 21. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Independent Claim 22

The rejection of Claim 22 is respectfully traversed. It is respectfully submitted that the Osawa, Troyanker, Matamoros, Finseth, and Lipson references, fail to describe, teach, or suggest the combination of (1) determining if any stored duplicated objects which were duplicated from a database is confusingly similar with a model based on a

complete size of a known object of intellectual property that (2) consists of at least one of (3) a logo, (4) trademark, (5) service mark, and (6) a combination thereof, (7) the complete size of the known object of intellectual property comprising a complete area of pixels of the known object, as recited in amended Claim 22.

As noted above with respect to independent Claim 1, the Osawa, Troyanker, Matamoros, Finseth, and Lipson references do not determine if any stored duplicated objects which were duplicated from a database is confusingly similar with a model based on a complete size of a known object. These references also do not teach the complete size of the known object of intellectual property comprising a complete area of pixels of the known object

In light of the differences between Claim 22 and the references mentioned above, one of ordinary skill in the art recognizes that the prior art references, alone or in combination, cannot anticipate or render obvious the recitations as set forth in amended independent Claim 22. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Independent Claim 23

The rejection of Claim 23 is respectfully traversed. It is respectfully submitted that the Osawa, Troyanker, Matamoros, Finseth, and Lipson references, fail to describe, teach, or suggest the combination of (1) duplicating an object from a database to produce a duplicated object; (2) analyzing the content of the duplicated object to produce a matrix of numbers; (3) producing a model template from a known object that is based on a full-size of the known object, (4) the full-size of the known object comprising a complete area of pixels of the known object; and (5) comparing the model template of the known object with at least one of all of (6) the matrix of numbers, (7) a portion of the matrix of numbers, and (8) a scaled version of the matrix of numbers to determine the degree of similarity between the duplicated object and the known object, as recited in amended Claim 23.

As noted above with respect to independent Claim 1, the Osawa, Troyanker, Matamoros, Finseth, and Lipson references do not produce a model template from a known object that is based on a full-size of the known object. Instead, these references

use portions or scaled versions of the known object in their comparison processes. Further, these references do not teach a full-size of the known object comprising a complete area of pixels of the known object.

In light of the differences between Claim 23 and the references mentioned above, one of ordinary skill in the art recognizes that the prior art references, alone or in combination, cannot anticipate or render obvious the recitations as set forth in amended independent Claim 23. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Dependent Claims 2-15, 18, 20, and 24-31

The Applicants respectfully submit that the above-identified dependent claims are allowable because the independent claims from which they depend are patentable over the cited references. Accordingly, reconsideration and withdrawal of the rejections of the dependent Claims 2-15, 18, 20, and 24-31 are respectfully requested.

CONCLUSION

The foregoing is submitted as a full and complete response to the Final Office Action mailed on March 21, 2005. The Applicant and the undersigned thank Examiner Desire for the consideration of these remarks. The Applicant has submitted remarks to traverse the rejections of Claims 1-31. The Applicant respectfully submits that the present application is in condition for allowance. Such Action is hereby courteously solicited.

If any issues remain that may be resolved by telephone, the Examiner is requested to call the undersigned at 404.572.2884.

Respectfully submitted,

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